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(12) # EUROPEAN PATENT APPLICATION

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(54) Self-service passenger ticketing system.

(57) A system is disclosed for issuing airline tickets without the intervention of any ticket agent. The system includes a plurality of electro-mechanical ticket terminals (10) in communication with a central computer. Each of the terminals has a card reader (35), a modem (31 and 31A), destination select buttons (37), and a printer (34). In operation, the card reader reads data from a magnetic strip (15) on a ticket purchasers credit card (12) and the modem transmits signals identifying this credit card to the central computer. Subsequently, the modem receives signals from the central computer indicating good or bad credit. The push buttons are provided on the terminal to enable the purchaser to manually select his destination; and the printer prints a ticket to the selected destination conditional on the credit check signals received from the modem.
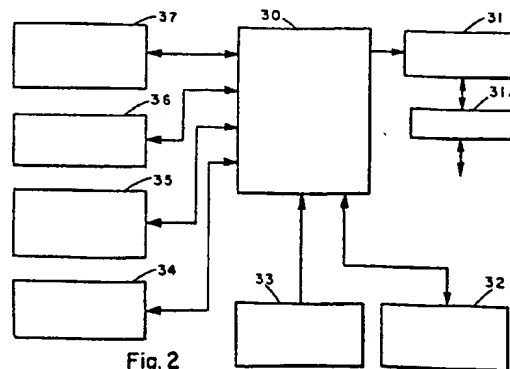
Fig. 2

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SELF SERVICE PASSENGER TICKETING SYSTEM

BACKGROUND OF THE INVENTION

This invention relates to methods and systems for
5 issuing airline ticket to passengers. In the past, such
ticket issuing always required the intervention of a
ticket agent. One problem with this prior art system,
however, is that it is simply too slow. Consequently, long
lines of persons waiting for their ticket are a common
10 sight in any airline terminal.

The above problem is overcome in the disclosed
invention through the use of sophisticated electronic tech-
nology. This technology is combined to form a fully auto-
mated passenger ticketing system. No intervention by a
15 ticket agent is required. As a result, ticket issuing
bottlenecks are eliminated. The total time required to
issue one ticket is less than 10 seconds.

Further, the system is easy to use and can be
operated by all passengers. In the preferred embodiment
20 the terminal has a visual display that directs each
passenger through a sequence of steps to obtain his ticket.
Also in the preferred embodiment, various checks are made
based on information received from the travelers credit
card prior to the issuance of a ticket. These checks allow
25 only certain types of credit cards to be accepted, for
example.

Therefore, it is one object of the invention to pro
vide an improved passenger ticketing system.

Another object of the invention is to provide a
30 passenger ticketing system that is fully automated.

SUMMARY OF THE INVENTION

These and other objects are accomplished in
accordance with the invention by a system that includes
a plurality of electro-mechanical ticket terminals in
5   communication with a central computer. Each of the
ticket terminals includes a credit card reader, a modem,
a plurality of destination selection push buttons, and a
printer. In operation, the ticket purchaser manually
slides his credit card through the card reader. In
10   response, the terminal transmits electronic signals via
the modem to the central computer. There, the credit
check is made and signals indicatingtthe results of the
check are transmitted back to the terminal. Simultan- .
eously while this occurring, the purchaser is directed
15   via a visual display to manually select a destination by
means of the push buttons. Also, he is directed to select
either a round trip ticket or a one way ticket. Then,
dependent on whether the central computer reports the.
purchasers credit as being good, the terminal calculates
20   the fare and prints the ticket.

BRIEF DESCRIPTION OF THE DRAWING

Preferred embodiments of the invention will best
be understood by referring to the following detailed
description when read in conjunction of the accompanying
25   drawings wherein;

.Figure 1 is a pictorial view of the disclosed
ticket terminal in operation.

Figure 2 is a block diagram of the electronics
within the terminal of Figure 1.

Figure 3 is a flow chart of the major functions
that are performed by the electronics of Figure 2.

Figure 4 is a detailed block diagram of the
central control unit in Figure 2.

5   Figure 5 is a detailed block diagram of the modem
controller of Figure 2.

Figure 6 is a detailed block diagram of the
printer module of Figure 2.

DETAILED DESCRIPTION

10   Referring now to Figure 1, a system for issuing
airline tickets without the intervention of any ticket
agent will be described in detail. The system includes
a plurality of electro-mechanical ticket terminals, one
of which is indicated via reference numeral 10. These
15   terminals are placed at locations that are convenient to
potential ticket purchasers. To obtain a ticket, a
purchaser 11 first slides his credit card 12 through a
card reader 13. Reader 13 includes a slot 14 for guiding
card 12 past the read heads. Various information is
20   read from a magnetic strip 15 on the card as it passes
through the reader.

After this information is read from strip 15, the
electronics within terminal 10 transmits signals that
identify the credit card to a central computer. There,
25   a credit check is performed on the card. Subsequently,
terminal 10 receives signals from the central computer
indicating whether the credit is good or bad. Based on
this information, and on other checks which terminal 10
performs, a ticket either will or will not be issued.
30   This checking sequence and the hardware for performing
it will be described in greater detail in conjunction with
the Figures 2 through 6.

As the above checks are being performed, passenger
11 selects a particular destination. A total of twenty-
four destination buttons 16 are provided for this purpose.
Each of the buttons 16 has a particular destination
5 associated with it; and a destination is selected simply
by depressing the corresponding button. Subsequently
passenger 11 selects either a one way ticket or a round
trip ticket. A pair of buttons 17 are provided for this
purpose. Also, another push button 18 is provided which
10 is marked "CANCEL". It allows the ticket purchaser to
abort any ticket selection sequence and begin a new one.

   Terminal 10 further includes three indicators 19a,
19b, and 19c which direct the ticket purchaser through
the ticket selection sequence. In Figure 1, indicator
15 19a is illustrated as being turned on. It directs pur-
chaser 11 to perform step number 1. Indicators 19b and
19c respectively direct the purchaser to perform steps 2
and 3.

   Terminal 10 also operates to give purchaser 11
20 additional messages via a visual display 20. These
messages include "wait for ticket" and "see ticket agent".
The former message is given when each of the three manual
steps is performed correctly and no reason for not issuing
credit to the passenger is detected by the terminal. In
25 that case, the actual ticket is dispensed through a slot
21. Conversely, the latter message is given when some
reason for not issuing credit to the purchaser is
detected by the terminal.

A block diagram of the electronics in terminal 10 will now be described in conjunction with Figure 2. As therein illustrated, these electronics includes a central control unit 30 which is in communication with and controls

5 various special purpose modules 31 through 37. Control unit 30 provides all of the intelligence in the terminal. That is, modules 31 through 37 simply respond to commands from the central control unit.

Module 31 is a modem controller. It operates to pro-

10 vide a communication link between control unit 30 and the central computer through a modem 31a. Basically, in response to commands from control unit 30, module 31 sends messages to the central computer requesting a credit check on a particular credit card, and sends signals indicating the

15 results of the check to unit 30.

Module 32 is a magnetic tape cassette recorder. It provides the means whereby control unit 31 stores a permanent record of each of the ticket dispensing trans- actions that are made. The cassette itself is removable

20 from the ticket terminal. This allows various off line bookkeeping operations to be performed on the store data.

Module 33 includes a plurality of terminal identifi- cation switches. The setting of these switches uniquely define each terminal. For example, these switch settings

25 indicates the city in which the terminal is located, the terminal location, and the terminal number.

Module 34 is a printer and ticket dispenser. Basically, it responds to commands from control unit 30 to print and dispense the airline tickets. These commands direct the

30 printing on a character by character basis.

Module 35 is the credit card reader. The previously described manually operated slide through read mechanism 13 is part of this module. Basically, the module operates to sense any data recorded on magnetic strip 15 and to
5 convert this data to logical signals for control unit 30 to sense and interpret.

The remaining modules 36 and 37 respectively are a timer module and a light/push button module. Timer module 36 operates to provide the hour, day, month, and
10 year to control unit 30. This information is used, for example, to determine whether or not the credit card has expired. In comparison, module 37 provides an interface to the lights and switches on the terminal which were previously described in conjunction with Figure 1. Basically,
15 the module forms a 6 bit code that indicates which of the switches has been depressed; and it responds to a 6 bit code from the control unit to illuminate various ones of the lights.

As was mentioned above, all of the intelligence in
20 terminal 10 is included in the central control unit 30. This intelligence is indicated by the flow chart of Figure 3. First, control unit 30 initializes itself. This operation includes the resetting of various registers that are internal to the control unit; and also includes
25 the reading of the information contained in the switches of module 33. Subsequently, control unit 30 illuminates light 19a. This indicates that the terminal is ready for a credit card to be passed through the card reader. Then the control unit waits for a signal from card reader
30 module 35 indicating that a credit card has been read.

Upon the detection of a credit card, control unit
30 sends a command to timer module 36 which starts a ten
second timer. This timer is set to prevent "silent
deaths"; If the ticket selection sequence is completed
5   within ten seconds, then the timer will be reset by the
control unit; otherwise the timer will signal the control
unit to terminate the ticket selection sequence.

Next, control unit 30 illuminates light 19b. This
indicates that a destination should be selected. Then,
10 the control unit makes various status checks on the credit
card that was read. These include a parity check, a
check on the type of card, a check as to whether the card
has expired, and a check on the number of transactions
made at this terminal with the card. A parity error may
15 be caused by a variety of things such as a ticket pur-
chaser inserting his credit card upside down in the card
reader for example. In the event of such an error, con-
trol unit 30 displays a message in display 20 and
returns to point "A" in the flow chart.

20   If no parity error occurs, then the card type
check is performed,, Each credit card has digits recorded
on its magnetic strip that identify the card type. For
example, the digits 37 identify an American Express card.
These card type digits are compared with a predetermined
25 list that is stored within the control unit 30. By this
means, the ticket terminal is able to selectively accept
or reject particular card types. Also recorded on each
credit card is a set of numbers identifying when the card
expires. These numbers are compared by control unit 30
30 against the present date as received from timer module 36.
By this means, expired credit cards are rejected without
interrogating the central computer.

The number of transactions check operates to limit
the maximum number of tickets that can be ontained from a
ticket terminal at one time. For each ticket that the
terminal issues, it stores the corresponding credit card
5   number. Subsequently, when another ticket is requested,
the list of previously used credit cards is interrogated.
And 'if this list shows that five tickets were already
obtained by that credit card, than a message "see ticket
agent" is displayed via display 20, and control unit 30
10 returns to point A.

     When all of the status checks are passed, control
unit 30 directs modem controller 31 to send a message to
the central processor. This message identifies of the
credit card which is presently being operated on. Upon
15 receipt of this message, the central processor performs
various checks to determine whether the card holders credit
is good or bad. It then sends signals indicating this
determination back to modem controller 31.

     This response from the central processor is interro-
20 gated by control unit 30. If the response indicates the
card holder has bad credit, then the ticket selection
process terminates. Conversely, if a good credit status
is indicated, then control unit 30 monitors module 37
until a destination has been selected. When that occurs,
25 the control module illuminates light 19c, which indicates
that a one way or round trip ticket should be selected.
After that selection is made, control unit 30 uses the
destination select information and the round trip/one way
information to calculate the fare. Pricing data to each
30 of the various destinations is stored in a programmable
ROM within the control unit.

Subsequently, control unit 30 directs printer
module 34 to print a ticket. Also, the control unit
directs the cassette recorder 32 to record on the
cassette, all of the information that was printed on
5 the ticket. This includes the date, destination, fare,
ticket number, and credit card number.

All of the functions in Figure 3 are initiated and
controlled by control unit 30. A detailed block diagram
of this control unit will now be described in conjunction
10 with Figure 4. Basically, the control unit is comprised
of a micro-processor chip 50, a plurality of output
ports 51 through 56, and a plurality of input ports 61
through 66. The output ports provide a means for micro-
processor 50 to send commands to each of the previously
15 described modules 31 through 37. Similarly, the input
ports 61 through 66 provide a means for receiving infor-
mation signals from modules 31 through 37. Figure 4
illustrates which ports connect to which modules.

Communication between processor 50 and the various
20 ports is provided by means of an address bus 50a, a data
bus 50b, and a control bus 50c. In one preferred embodi-
ment, the address bus is sixteen bits wide, the data bus
is eight bits wide, and the control bus is one bit wide.
This embodiment may suitably be implemented with processor
25 50 being an 8080 type micro-processor.

Address bus 50a in conjunction with the control
bus 50c provide the means for selecting each of the ports.
To this end, address 50a is decoded by an address decoder
70. This decoder has various outputs 71, each of which
30 connects to one input port and one output port. Selection

between an input port or an output port is made by
signals on control bus 50c. For example, suppose the
signals on address bus 50a are such that decoder 70
generates a select signal on lead 71a. Under these con-
5 ditions, a high logic state of control bus 50c operates
to select output port 51, whereas a low logic state of
control bus 50c operates to select input port 61.

Data bus 50b is used to transmit data to the
output ports and receive data from the input ports. This
10 is achieved by constructing each of the output ports as a
triggerable register, and by constructing each of the
input ports as a register with logically selectable output.
Preferably, both the input ports and the output ports are
comprised of INTEL 8212 chips.

15   Also included in control unit 30 is a RAM 72 and
a ROM 73. Basically, the RAM is used as a work area for
micro-processor 50. In the preferred embodiment, it has a
capacity of 512 bytes. By comparison, ROM 73 holds .
instructions for the micro-processor. These instructions
20 are executed by micro-processor 50 in various sequences to
carry out all of the functions that were previously des-
cribed in conjunction with Figure 3. A listing of the
instructions in ROM 73 is included herein as Table 1.

A portion of ROM 73 also stores various data which .
25 micro-processor 50 can interrogate as needed. For example,
data includes pricing information to the various destina-
tions. Preferably. the ROM chips that hold this data are
packaged on a separate card or in socket holders which
allow them to be easily changed.

Referring now to Figure 5, a detailed block diagram
of modem module 31 will be described. This module includes
an interface 80 which meets RS232 standards. Receivers
81a are provided for receiving signals from the RS232
5   interface and for converting them to T^{2}L logic levels.
Similarly, transmitters 81b are provided for converting
T^{2}L signals to RS232 levels. The actual modem to which
this interface connects is a VADIC full duplex model 2430.

In operation, the central processor sequentially
10 polls each ticket terminals to determine whether or not
that terminal has a credit card to be checked. All
messages that are received from interface 80 are first
stored in a message storage RAM 82. Subsequently, after
the message is received, it is sent to a message compare
15 circuit 83. This circuit has a second input from a ROM
84. This ROM contains the format of various messages
which the terminal is to recognize.

If the message in RAM 82 is determined by compare
circuit 83 to be a poll message, then a signal indicating
20 this fact is sent via a lead 85 to a timing and control
circuit 86. In response, control circuit 86 sends a
message back to the central processor. The exact message
sent depends on whether or not the modem had previously
received from control unit 30, the number of a credit card
25 to be checked. This number is stored in a RAM 87 by means
of signals from output port 56.

If RAM 87 has a credit card number stored therein,
then this number is sent through a multiplexor 88 and
through transmitters 81b to the remote processor. Conversely,
30 if RAM 87 has no credit card number stored therein, then a
canned message is read from ROM 89 and sent through multi-

plexor 88 and transmitters 81b, to the central processor.
Timing signals for these transmissions are generated by
control circuit 86 on leads 90.

5   When the central processor receives a credit card
number to be checked, it responds with a message on interface 80. Again, this message is stored in the message
RAM 82. Subsequently, the message in RAM 82 is sent to
compare circuit 83 for comparison with the messages in
ROM 84. This time, the received message will indicate
10 either a good credit status or a bad credit status. Circuit
83 operates to generate signals on leads 91 indicating
which message was received. These messages are subsequently
interrogated through input port 66 by microprocessor 50.

     Referring now to Figure 6, details of the printer
15 control module will be described. Basically, this module
consists only of output port 54 and input port 64. Signals
from output port 54 includes 7 hammer select signals 100,
a head motor control signal 101, and a ticket advance
signal 102. Similarly, signals to input port 64 consists
20 of two end position sense signals 103. These signals are
sent to/received from a Practical Automation printer
having model number DMPT-6.

     In operation, control unit 30 first monitors the
end position signals to determine if the print head is in a
25 position where printing can begin. One of the end position
signals indicates that the print head is in an extreme left
position and thus printing can begin from left to right;
whereas the other signal indicates that the print head is
in an extreme right position and printing can begin from
30 right to left. Upon detection of one of the signals, the
head motor control signal is sent. This causes the print
head to move in a lateral direction in a predetermined speed.

Subsequently, in synchronization with this speed, various hammer select signals are sent to the printer. To print one character, these signals are held true for 600 milliseconds, and are turned off for 1000 milliseconds. All

5 of this timing and signal selection is accounted for by the microprocessor 80.

The above described character by character printing continues until one full line is printed. Subsequently, the ticket advance signal is sent to the printer. In

10 response, the ticket is moved to a new line. Then printing of that new line continues as described above. A total of four lines are printed on each ticket.

Card reader module 35, timer module 36, and tape cassette module 32 also have standardized interfaces

15 similar to that described above for the printer. Their control is implemented by sending signals to and receiving signals from the corresponding output and input ports. The actual card reader used in terminal 10 is the model 40 magnetic strip card reader that is manufactured by

20 American Magnetics Corporation. Similarly, the actual timer that is used in terminal 10 includes a semiconductor chip number 5880N that is manufactured by NSC Corporation. This chip gives the seconds, minutes, hours, and months. The year is set in by hand via several switches. And,

25 the actual tape cassette that is used in terminal 10 is a model 250B with option 214 that is manufactured by MFE Corporation. Further, details on the interface to each of these components is available from their respective manufacturers.

A preferred embodiment of the invention has now
been described in detail. In addition, various changes
and modifications may be made thereto without departing
from the nature and spirit of the invention. Therefore,
5 it is to be understood that the invention is not limited
to said details but is defined by the appended claims.

TABLE 1

Address		Data

:0E20222231F541C341203142C33A004C
:10023822334473203E49D305761603CD7C13CD137A
:120349301CDAE730D7522CD9720CD7301DB027668
:100258040202030CDE40BCD022CCD320CCD4A2C9B
:100268020CD5A2CCDA50C3E01D305C3BE203E10D30E
:10027902030AFD502D322D302B3203B303232410367
:100288204372402023441212402220410906BB
:100298003111F517CDF815DA302021034122C941ED
:2003A8001E02CD7106C9112042D1
:10023B102018001AF12130B78B102B4200C9CDE42B2A
:12023C1023A2F41F620322F41D321DB26E614CADE76
:120331032331F1F1FDA0007CDD407CCB20DF031FED
:1020F102DCDF123702320DB0907DAE10DB21E643
:100F10200003C32030E20D3050BFFCD7C25FA
:12010103CD200213E31323841C3E503CDFF02DAE5ED
:100111020203CD1A333D3623DAF103C06704EAF103B37
:200121020CD2304CDAD204CD5A04D8
:12012A0203CDA204CD7104CDA2353E02D3052142413DF
:10013A00360223362023330202CD7905211F5413C6FFF6
:10014A00CDD825DAF123CD0425CDAC053A42410656
:10015A302532424 1CDFA2CCDEA0A3A3441FE15D3EA
:10016A2006FCEF323441D33603CD190063F021160573
:10017A00DB01F510C3AFFE61D321322F4101C8037B
:12018A02CDC815FA2F41F6232 2F41D3012100352F
:07019A02CDC815DB01E608EA
:1021A100CA36353A2F41E6BF322F41D3010100404244
:12021B100B79B7C2B10178B7CAC321DE21E610CA36
:10C1C102B101DB21EC102CA4A05BE8E322F41D3214F
:12021D1233F11322841C656CDB6203CDCD073A2F411C
:12021F120E671322F41F521AFD3202C9D2301747DCD1
:1021F1023A08731F47DCCA08781F1F1F47D4DFC?
:12022100028781F1FD212023A3441E6FE323441D33C
:20021103052129414EDE05FEF34F
:12021A2081E650FE50CCBA0821394 17E1F1FDA3ADE
:12022A0322DB0F17D24722171717DCC223034722B9
:12023A201FDA4702DE2520F2F240CCC20 03A394134
:10024A2017DACB4517DA132417DAD903E636FF36BC
:12025A200 2FCC1CDD3081E20CD7126S140324241A6
:12026A0321DC42AF77237723770D2D4BCDPF13D25E
:10027A200202023A5841 17DAC1251 7DACA2517DAEF18
:20029A002517DA7403760D4E4D5E
:10029033A2F41FS31C242A2521FF41CDADA2C3FACE
:12024300321BD41CDAD07C3BD227E3C27772BDBE2
:120253037PC5012777230PA33C2C93A2F41E636CA03
:12026033040145DF21F523C2C2002CD323CCDAE00CD4E
:1202D3000   0 C 0 F12322F94TAF5CC2FFDA
:0C25B700 0   1C8D8231F02

TABLE 1 Continued

Address	Data

```
:1032FCDEC2FC02CDDF12C03C2C0C5C2C021C24C97H89
:C8032C203CE21C03233DFEF86B
:1003CP2C020203AFC93A3841F8023233B4137C9T13C
:12231B200342212F431A1F1F1FE60F772313FE0FDD
:1003CB2C0220031A1F1F1FE1F77C9160C212E427C
:102353007EFE0RC24D03237EFEC4DA8003FE06DA33
:12034E0057C5CA3C41F82485281570C925F209DAEC
:10035B006003C34E23C07EFE02C27C0323 7FFE02BE
:10036B00C27C03E27EFF04C27C03237EFT09CA4D9E
:07037E22031E01AFC9FE23E0
:10038C00DAAB03E37EFE08CA9123FE02C29403E1FC9
:1003920006C9FE07DA4D03FE28DAA2031E05AFC93D
:1003A20CF08CA9123IEC1AFC9FE00CACC23FE02C5
:1003B200C24D23237EFE05C24D031E01AFC923C396
:100C2007FFE05C2DC3C3600031E44C2TC9410C0C
:1003D2002ACD5115CDC607CDAE00CD7500CDD30ABF
:1003E2C036700C5A3B413C023B41FE23EA2504C089
:2C03F202F703C3D9033E08D3C34B
:1003FB301F2ACDC6071DC2FD23C9F5CDAE02F132F5
:10040B205B41CE7502C36FC2CDF7033A3441E6FE98
:10041B00323441DE26C3C823217841 7EFE2F4723C8
:10342B000E247EE64F802747230C22D042B0E05ED
:10043B207E1F1F1F1FE60F8027472B0C023B04217A
:10044B0004077373E90CE0096C607274FDA6204F5
:10045B003E9A917700E24FF02CA0324TEE02FCD25
:09246B00320632BA40C911C44145
:10047400218401C37070727F5CD8AC4F125070707
:10049400727CD5A04C9E60FFE0ADA9704C6902747
:100494030CE527FE00C29E043E6A77C9119942P13E
:1004A420C01410C237ECD4006C911B44221B3410C53BB
:10041F4033237ECF4006C911524071E941DC327FCD60
:1024C40042C0C9D5712F40E28CD5D262A35411996
:1004D4027C07070707E5F3C3A94F237DC707070703
:2C04E420I6F023AE47721C1415EA2
:1004ED022323560D961ED2F924D1AFC93A3641FE2A
:1004FD020832384D1370C11C94121E4420620CD2C
:10250D0251152103441E7223C2A3541222F02070217
:17051D0223E206031A772313C3C0271E53FFEBDC249
:10052D0032252104C341220C4109150A4AC53A2F41FD
:10053D00E032322F41D321CDC607C37A013E480DF1
:10054D02003A2E41EE6023EF41D3043E2E0243E35
:08255D022A0325763EC0D300EF
:10256502C2F25D025763E7C5C6C5C5C7C5C5C5D2
:1C0575C252C03E326112E40216A431AIE2FFF2AFAF2
:1025850206D25C6922765302FE08C29403E3A791A
:120595003442413C3242412C1B1AE60FFE2F131328
:1005AE20C27F057243410971C44236077303EF29D
:1025B5023AC041772356102A43411D2323233673
:1025C5205723C10C0600E00000000001F44CE512C09
:2925DE22364102130E15FE3E66F
```

TABLE 1 Continued

Data

Address

```
:1705DE00 B1B1B1B1B1B1B21C341D506031ABFC200BA
:1005FE0025132305C2EA053A37413C323741FE0570
:1025FE00DA110ED13A3941F628525941570923C5A5
:10260300C20C06D17E2FB7C2E705C9212E4011BB01
:10061E004061F7EE63FCD22061213232578FE002D
:10062E02C22106C9FE0ADA3D06E6F73DFE40C9FED6
:10063E0032C97EEEF20F2F2F2FCD32061213732E895
:39064E00FCD3206121323057B8CA
:100657C0FE00C24226C97EFF3DCACA06CD23C25FB2
:10265E00063709AF22354 1AFC9C93A3241F340D33F
:10065730040CDCD275A324 1ECFDC24C3CD071DC225
:10066E0071061604018813CDC815AFCD9B06CDCBD7
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:09073F0003CA7707FE04CA8E0705
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:1007FF0021BB4177CD420C11B44206C1CD40061E5E
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TABLE 1 Continued

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--:10090E0010093A3941F680323941C93A3941F60260---
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--:1009BE000917DACA0936241E0CC30209362510F82---
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--:1009DE001E15C30209917DA392A17DA1332A17EA01D2---
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--:1009FE00C302091 7DA0C0A562A1E1EC3220560302149---
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--:100A3700020D0C070909201 7DAC802A17DA36CA17DA4FC0---
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--:100A5700DAC12A3663213C030209363011E09C5223R---
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  :390A8700022936371E45C3020090D
--:100A9200011A771E23210C003900AC0233210117191171---
  :100AA2000CF40CD400521D741190F42260CCD51153E
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--:100AD20037809020C3720A363321501719FB21A0E5---
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TABLE 1 Cont'd.

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TABLE 1 cont'd.

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TABLE 1 cont'd. 0010399

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TABLE 1 cont'd

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```

CLAIMS

1.   A system for issuing airline tickets without the
2 intervention of any ticket agent, said system being com-
prised of a plurality of electro-mechanical ticket
4 terminals, wherein each of said ticket terminals includes:
credit card reader means for reading data from a
6 magnetic strip on a ticket purchaser's credit card as the
card is slid by said purchaser through said reader means;
8   modem means for transmitting signals identifying
said credit card to a central computer for a credit check
10 and for receiving signals from said central computer
indicating good credit or bad credit;
12   destination selection means for enabling a person
to manually select a destination and
14   vending means for printing and dispensing a ticket
to said selected destination conditional on said signals
16 received from said central computer indicating good
credit.

2.   A system according to Claim 1 wherein each of said
2 ticket terminals further includes microprocessor means for
sequentially controlling the operation of said card reader
4 means, said modem means, said destination selection means,
and said vending means.

3.   A system according to Claim 2 wherein each of said
2 ticket terminals further includes a data bus and an
   address bus from said micro processor to a plurality of
4 selectively loadable output registers, with said output
   register connected to respective ones of card reader
6 means, modem means, destination selection means, and
   vending means for controlling their operation.

4.   A system according to Claim 3 wherein said desti-
2 nation selection means further includes means for manually
   selecting a one way ticket or a round trip ticket.

5.   A system according to Claim 3 wherein each of said
2 ticket terminal means further includes visual display means
   for directing a person desiring a ticket through a sequence
4 of steps to manually select a ticket by means and said
   destination selection means.

6.   A system according to Claim 3 and further including
2 means for recording data representative of each of said
   ticket dispensing transactions on a magnetic tape cassette.

0010399

7.   A method of issuing airline tickets without the
2 intervention of any ticket agent, said method including
the steps of;
4   providing an electro-mechanical ticket terminal at
a location convenient to potential ticket purchasers;
6   allowing a purchaser to manually slide his credit
card through a hand operated credit card reader on said
8 terminals;
        transmitting electronic signals, identifying said
10 credit card, from said terminal to a central computer for
a credit check on said card, and receiving electronic
12 signals therefrom indicating good or bad credit;
        allowing said purchaser to manually select a desti-
14 nation via destination selection buttons on said terminal;
and
16   electro-mechanically printing and dispensing a
ticket at said terminal to said selected destination
18 conditional on said signals received from said central
computer indicating good credit.

8.   A method according to Claim 7 and further including
2 the step of allowing said purchaser to manually select a
round trip or one way ticket via said destination selection
4 buttons.

9.   A method according to Claim 7 and further

2   including the step of directing said purchaser with dis-
played instructions, to perform said manual steps in a

4   predetermined sequence.

10.   A method according to Claim 7 and further

2   including the step of recording data representative of
each ticket dispensing transaction on a magnetic tape
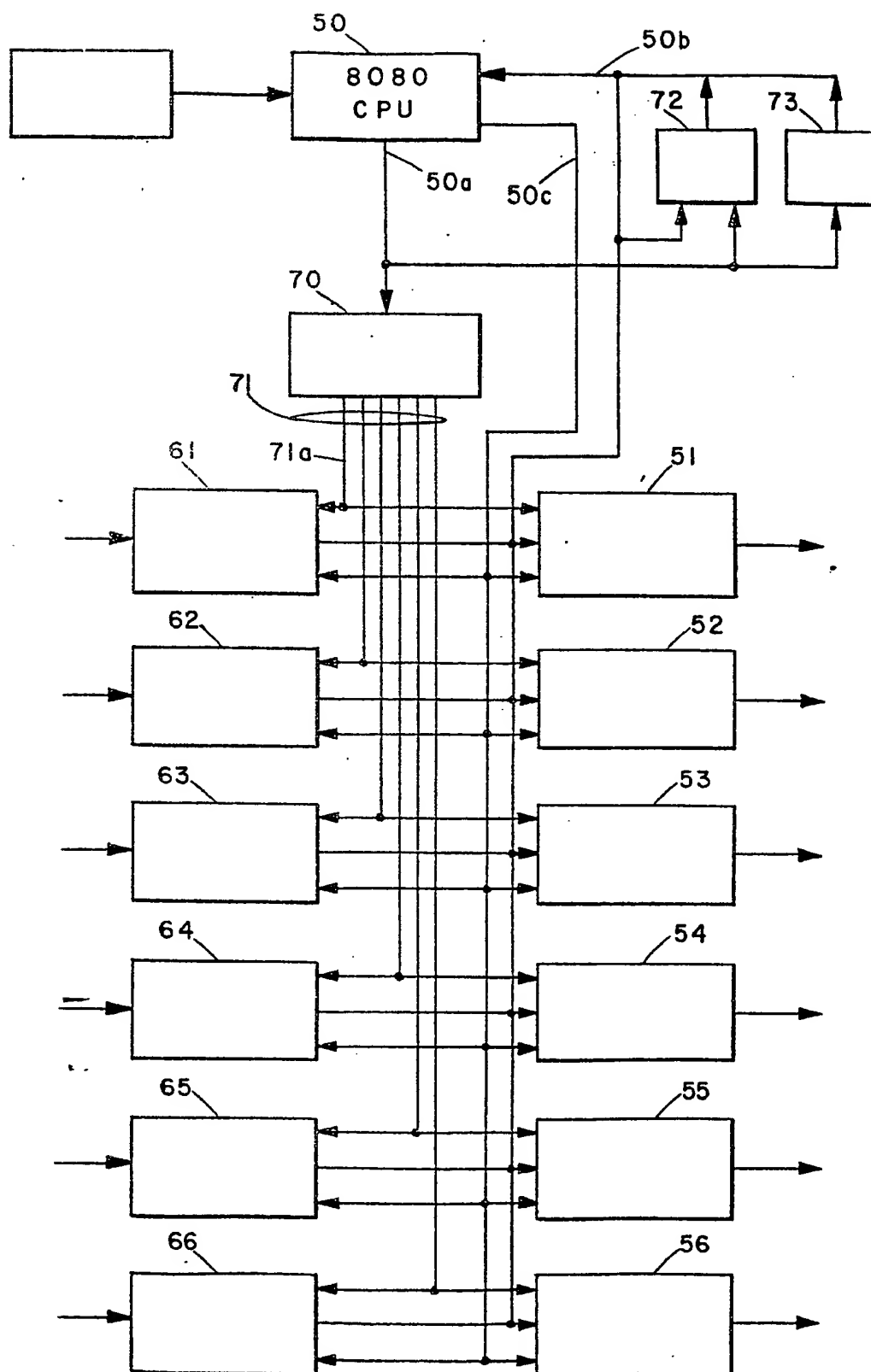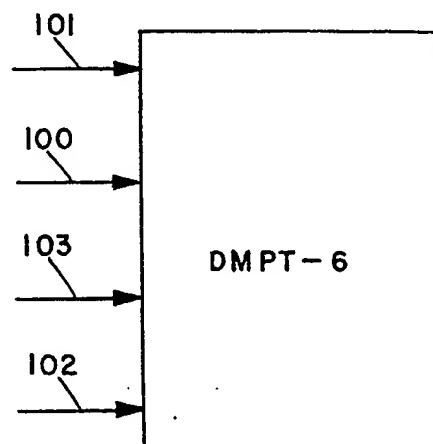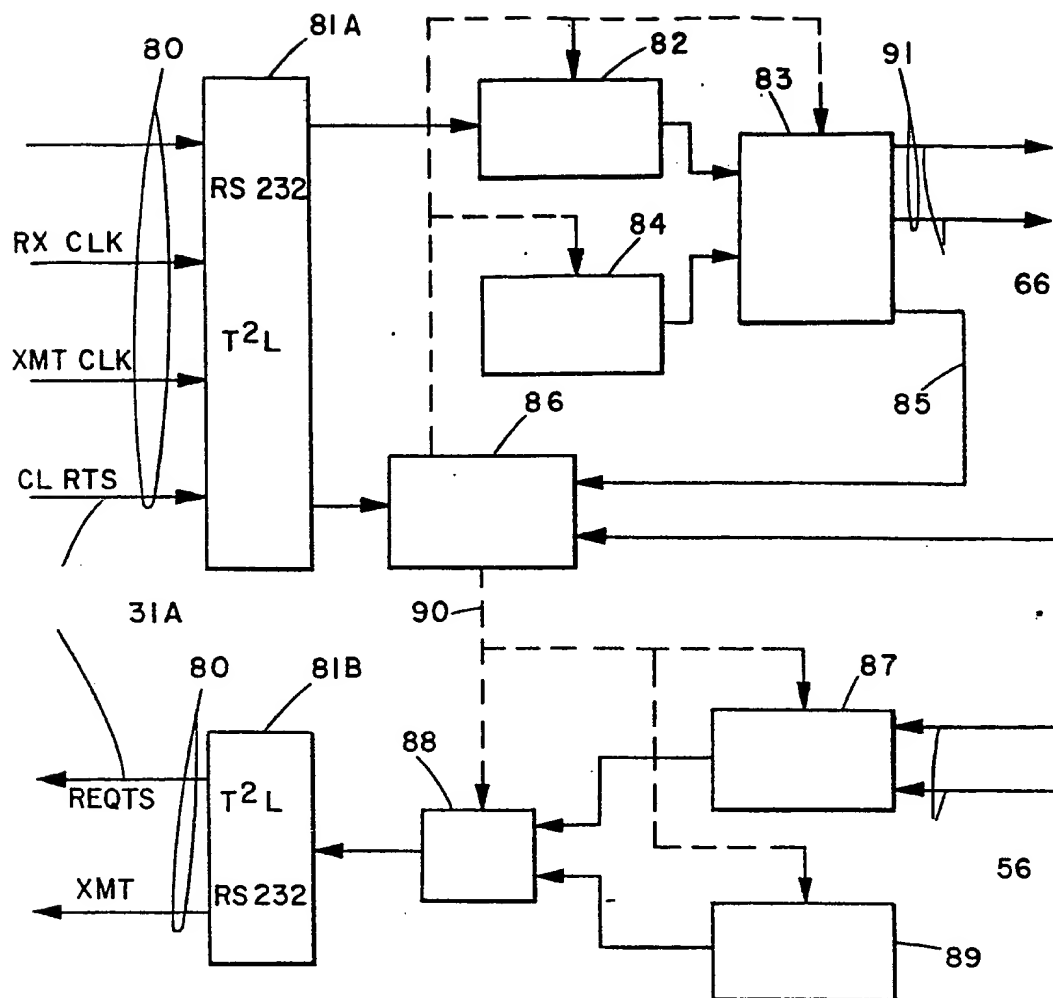
4   cassette in said ticket terminal.
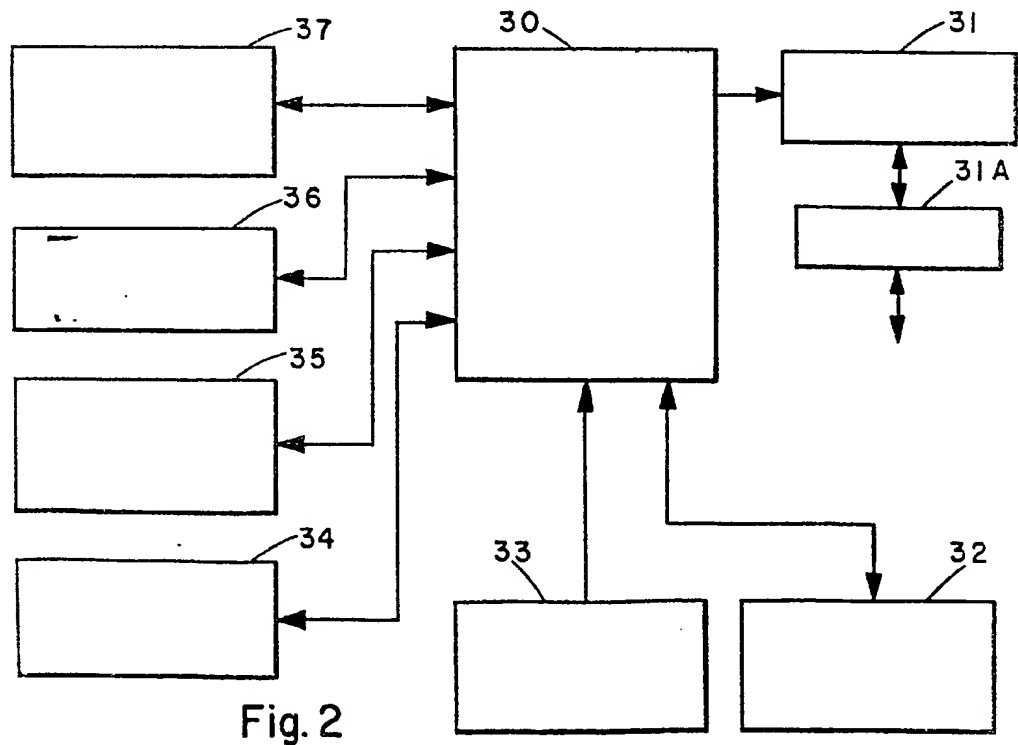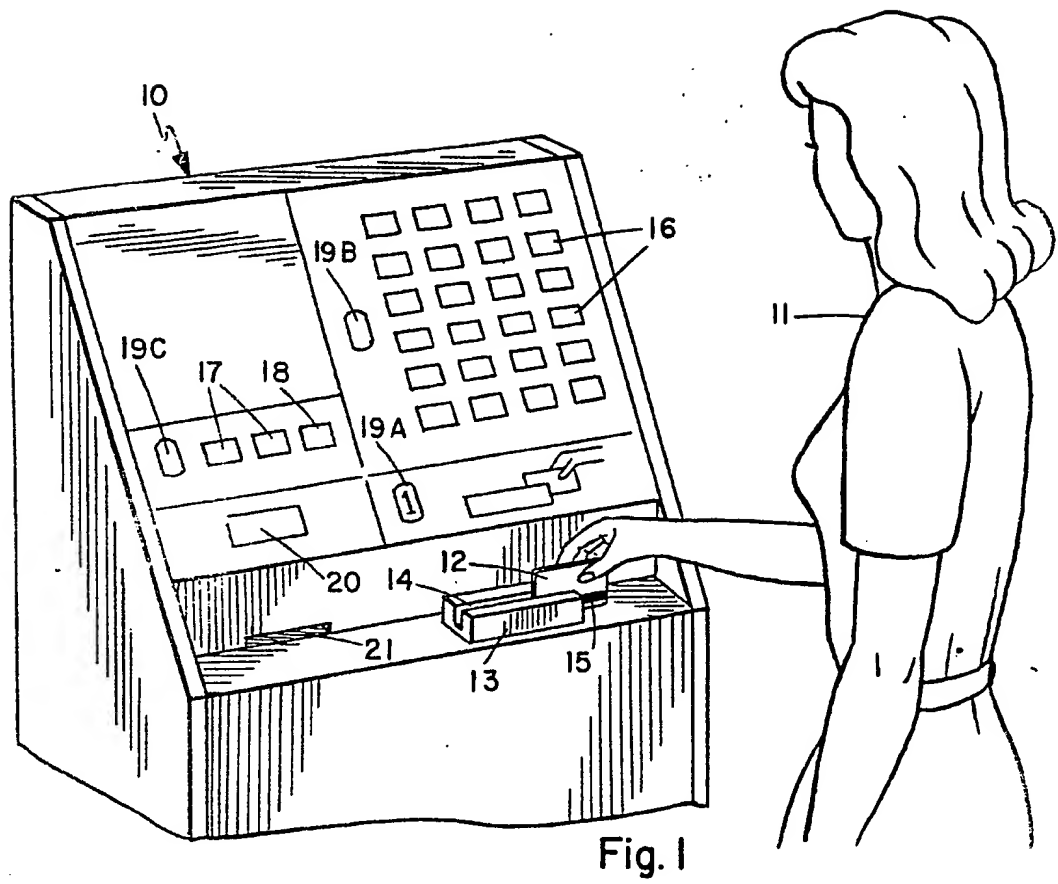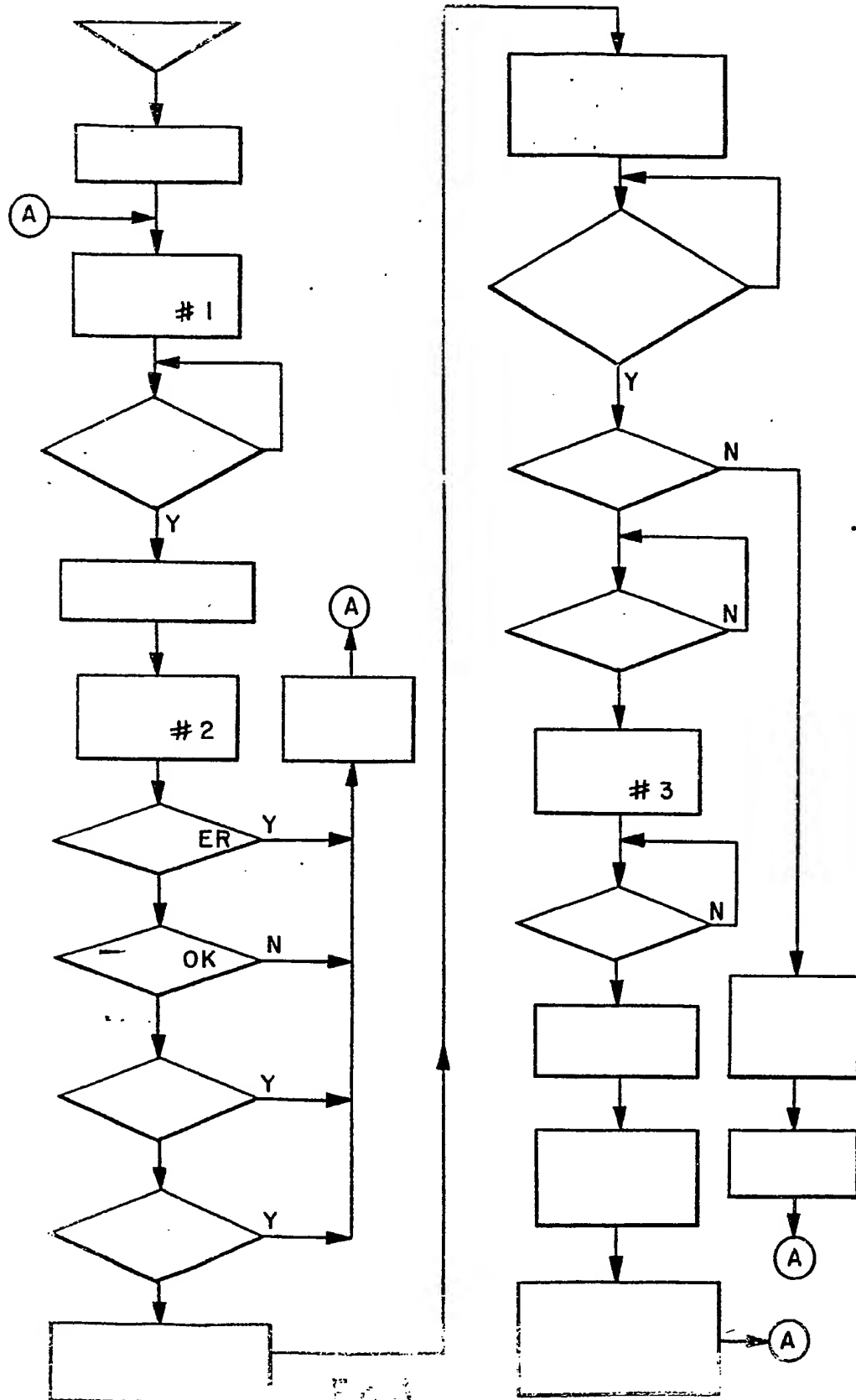
Fig. 1

Fig. 2

Fig. 4

Fig. 5

Fig. 6

	DOCUMENTS CONSIDERED TO BE RELEVANT		CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	US - A - 3 445 633 (V.A. RATNER) * Column 2, lines 12-47; figures and claims * --	1,6,7, 10	G 07 F 17/42 7/02 15/26
	US - A - 3 958 103 (A. OKA) * Abstract; figures 1,3; column 2, lines 1-47 * --	1,4,7, 8	
	ELECTRONICS INTERNATIONAL, vol. 50, no. 8, 14th April 1977, pages 44-46 "Machines to vend airline tickets" * Complete document * --	1,5,7, 9	**TECHNICAL FIELDS SEARCHED (Int.Cl. 3)** G 07 F 7/00 7/02 7/08 7/10 17/42
	GB - A - 1 371 062 (BELL PUNCH) * Page 6, lines 48-101; figures 2,3,10 * --	1-3	G 07 B 1/00 1/02 1/04 1/06 5/00 5/04 5/06 5/08
P	FR - A - 2 385 158 (ELECTRONIQUE M. DASSAULT) * Claims and figure * --	1,2,5, 7,9	G 06 F 15/26 G 07 F 17/14
A	US - A - 3 622 995 (V.C. DILKS) * Abstract; figures * --	1	**CATEGORY OF CITED DOCUMENTS** X: particularly relevant A: technological background O: non-written disclosure P: intermediate document
A	US - A - 3 750 103 (D.R. ANGUS) * Abstract; figures * -- ./.	1,3,7	T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
			&: member of the same patent family, corresponding document

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21-01-1980	DAVID

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	US - A - 3 212 615 (M.W. HELLAR) * Column 4, lines 57-70; figure * ----	1

CLASSIFICATION OF THE
APPLICATION (Int. Cl. 5)

TECHNICAL FIELDS
SEARCHED (Int. Cl. 3)